

## Systematic Encoding and Decoding of Chain Reaction Codes

### ABSTRACT

[0111] A method of encoding data into a chain reaction code includes generating a set of input symbols from input data. Subsequently, one or more non-systematic output symbols is generated from the set of input symbols, each of the one or more non-systematic output symbols being selected from an alphabet of non-systematic output symbols, and each non-systematic output symbol generated as a function of one or more of the input symbols. As a result of this encoding process, any subset of the set of input symbols is recoverable from (i) a predetermined number of non-systematic output symbols, or (ii) a combination of (a) input symbols which are not included in the subset of input symbols that are to be recovered, and (b) one or more of the non-systematic output symbols.